

HIGH STRENGTH ALUMINUM ALLOY CASTING AND
METHOD OF PRODUCTION OF SAME

ABSTRACT OF THE DISCLOSURE

A high strength aluminum alloy casting obtained by casting an aluminum alloy comprised of 7.5 to 11.5 wt% of Si, 3.8 to 4.8 wt% of Cu, 0.45 to 0.65 wt% of Mg, 0.4 to 0.7 wt% of Fe, 0.35 to 0.45 wt% of Mn, and the balance of Al and not more than 0.2 wt% of unavoidable impurities, wherein this aluminum alloy has 0.1 to 0.3 wt% of Ag added to it or contains 0.1 to 1.0 wt% of at least one element selected from the group of second additive elements comprised of Rb, K, Ba, Sr, Zr, Nb, Ta, V, and Pd and rare earth elements, and a method of production of a high strength aluminum alloy casting comprising the steps of filling a melt of an aluminum alloy in a mold to obtain a casting, taking out the aluminum alloy casting from the mold, solubilizing the high strength aluminum alloy casting by heating in a temperature range of 495 to 505°C for 2 to 6 hours, quenching the high strength aluminum alloy casting after the solubilization, and age hardening the high strength aluminum alloy casting by heating in a temperature range of 160 to 220°C for 2 to 6 hours after quenching.